Amendments to the Claims

1   Claim 1 (original): A communication system[[,]] to provide remote access, by [[to]] an operator,

2   ~~suitable for querying and controlling~~ to process sections in an industrial plant, the process

3   sections <u>monitored and</u> controlled by a centralised ~~computer~~ <u>control system,</u> the communication

4   system comprising:

5   a data network;

6   a plurality of wireless access points on the data network;

7   a mobile wireless device provided to the operator;

8   a means for connecting the mobile wireless device to one of the wireless access points;

9   and

10   an interfacing means for connecting the mobile wireless device with the ~~central computer~~

11   <u>centralised control system</u> using the data network,

12   whereby the operator equipped with the mobile wireless device is able to query <u>the centralised</u>

13   <u>control system for status information pertaining to the process sections and to provide</u>

14   <u>instructions to the centralised control system that request the centralised control system to</u> [[and]]

15   control the process sections.

1   Claim 2 (currently amended): The communication system as recited in claim 1, wherein the

2   interfacing means ~~comprises~~ <u>accesses</u> a database containing a profile of each ~~operator~~ <u>of a</u>

3   <u>plurality of operators.</u>

1   Claim 3 (currently amended): The communication system as recited in claim 1, wherein the

2   interfacing means <u>further</u> comprises a means to identify a <u>selected one of the</u> process ~~section~~

3   <u>sections which is</u> in a vicinity of each wireless access point.

1   Claim 4 (currently amended): The communication system as recited in claim 1, wherein the

2   mobile wireless device comprises:

3   an input means for the operator to input <u>the queries</u> [[query]] and <u>the</u> control instructions

4   for <u>providing to the centralised control system via</u> the interfacing means;

5   an output means for providing <u>the</u> status information from the ~~central computer~~

6   <u>centralised control system</u> to the operator; and

7   a wireless communication means for communicating with the interfacing means using <u>the</u>

8   <u>connected-to</u> one of the wireless access points.

1   Claim 5 (original): The communication system as recited in claim 4, wherein the input means of

2   the mobile wireless device is a touch screen.

1   Claim 6 (original): The communication system as recited in claim 4, wherein the input means of

2   the mobile wireless device is a keyboard.

1   Claim 7 (original): The communication system as recited in claim 4, wherein the output means

2   of the mobile wireless device is a display screen.

1   Claim 8 (original): The communication system as recited in claim 4, wherein the output means

2   of the mobile wireless device provides voice output.

1   Claim 9 (original): The communication system as recited in claim 4, wherein the wireless

2   communication means of the mobile wireless device is a receiver transmitter means.

1   Claim 10 (original): The communication system as recited in claim 1, wherein the interfacing

2   means is hardware.

1   Claim 11 (original): The communication system as recited in claim 1, wherein the interfacing

2   means is software.

1   Claim 12 (original): The communication system as recited in claim 1, wherein the mobile

2   wireless device further comprises log-in means enabling the operator to be identified.

1   Claim 13 (currently amended): The communication system as recited in claim 12, wherein the

2   log-in means enables the operator to log-in into either the centralised computer control system or

3   the mobile wireless device.

1   Claim 14 (original): The communication system as recited in claim 1, wherein the mobile

2   wireless device is provided with a radio frequency means to communicate with the wireless

3   access points.

1   Claim 15 (original): The communication system as recited in claim 14, wherein the mobile

2   wireless device uses IEEE 802.11 wireless protocol.

1   Claim 16 (original): The communication system as recited in claim 14, wherein the mobile

2   wireless device uses HomeRF communication protocol.

1   Claim 17 (currently amended): The communication system as recited in claim 1, wherein the

2   wireless access points use Bluetooth communication protocol, the mobile wireless devices device

3   being a Bluetooth enabled devices device.

1   Claim 18 (original): The communication system as recited in claim 17, wherein the mobile

2   wireless device processes voice data.

1   Claim 19 (currently amended): The communication system as recited in claim 1, wherein the

2   mobile wireless device has a storing means to store information [[from]] pertaining to a plurality

3   of the process sections.

1   Claim 20 (currently amended): The communication system as recited in claim 1, wherein the

2   mobile wireless device is also a computing device.

1   Claim 21 (currently amended): The communication system as recited in claim 1, wherein the

2   mobile wireless device communicates with a selected one of the wireless access points, the

3   selected one being that one of the wireless access points which is physically nearest the mobile

4   wireless device.

1   Claim 22 (original): The communication system as recited in claim 1, wherein the interfacing

2   means uses software objects to represent the process sections.

1   Claim 23 (currently amended): The communication system as recited in claim 22, wherein the

2   interfacing means has a list of pre-defined characteristics for each software object, such that the

3   operator can interact with the pre-defined characteristics of at least one selected one of the

4   process sections, the pre-defined characteristics of the selected one determined by reference to

5   the pre-defined characteristics in the list.

1   Claim 24 (original): The communication system as recited in claim 22, wherein the interfacing

2   means has the software objects categorized according to a predetermined scheme, and the

3   categories are linked together.

1   Claim 25 (currently amended): An industrial control system connected on a data network

2   suitable for an operator to remotely query and remotely control process sections in an industrial

3   plant, the industrial control system comprising[[of]]:

4   a centralised computer to control system that monitors and controls the process sections

5   over the data network;

6   a plurality of wireless access points on the data network; and

7   a mobile wireless device that communicates wirelessly with the centralised computer

8   control system using one of the wireless access points to which the mobile wireless device is

9   communicably connected,

10   whereby the operator equipped with the mobile wireless device communicates with the

11   centralised computer control system using the connected-to wireless access point to obtain status

12   information about the process sections and to provide control instructions to the centralised

13   control system that request the centralised control system to control the process sections.

1   Claim 26 (currently amended): The industrial control system as recited in claim 25, wherein the

2   centralised computer comprises control system accesses a database containing a profile of each

3   operator of a plurality of operators, and wherein the obtained status information about the process

4   sections is customized according to the profile of the operator who is equipped with the mobile

5   wireless device.

1   Claim 27 (currently amended): The industrial control system as recited in claim 25, wherein the

2   centralised computer control system further comprises a means to identify, for each of the

3   wireless access points, a selected one of the process section sections that is in [[the]] a vicinity of

4   [[each]] that wireless access point.

1   Claim 28 (currently amended): The industrial control system as recited in claim 25, wherein the

2   mobile wireless device comprises:

3   an input means for the operator to input the queries [[query]] and the control instructions

4 for <u>providing to</u> the centralised computer <u>control system</u>;

5   an output means for providing <u>the</u> status information from the centralised computer

6 <u>control system</u> to the operator; and

7   a wireless communication means for communicating with the centralised computer

8 <u>control system</u> using <u>the connected-to</u> one of the wireless access points.

1 Claim 29 (original): The industrial control system as recited in claim 28, wherein the output

2 means of the mobile wireless device is a touch screen.

1 Claim 30 (original): The industrial control system as recited in claim 28, wherein the input

2 means of the mobile wireless device is a keyboard.

1 Claim 31 (original): The industrial control system as recited in claim 28, wherein the wireless

2 communication means of the mobile wireless device is a transmitter receiver means.

1 Claim 32 (original): The industrial control system as recited in claim 25, wherein the mobile

2 wireless device further comprises log-in means for identifying the operator.

1 Claim 33 (original): The industrial control system as recited in claim 25, wherein the mobile

2 wireless device is provided with a radio frequency means to communicate with the wireless

3 access points.

1   Claim 34 (original): The industrial control system as recited in claim 33, wherein the mobile

2   wireless device uses IEEE 802.11 wireless protocol.

1   Claim 35 (original): The industrial control system as recited in claim 33, wherein the mobile

2   wireless device uses HomeRF communication protocol.

1   Claim 36 (currently amended): The industrial control system as recited in claim 25, wherein the

2   wireless access points use Bluetooth communication protocol, the mobile wireless~~devices~~ device

3   being a Bluetooth enabled~~devices~~ device.

1   Claim 37 (original): The industrial control system as recited in claim 36, wherein the mobile

2   wireless device processes voice data.

1   Claim 38 (currently amended): The industrial control system as recited in claim 25, wherein the

2   centralised~~computer~~ control system uses software objects to represent the process sections.

1   Claim 39 (currently amended): The industrial control system as recited in claim 38, wherein the

2   centralised~~computer~~ control system has a list of pre-defined characteristics for each software

3   object.

1   Claim 40 (currently amended): The industrial control system as recited in claim 38, wherein the

2   centralised~~computer~~ control system has the software objects categorized according to a

3   predetermined scheme, and the categories are linked together, thereby modeling the process

4   sections of the industrial plant and enabling the operator to remotely access and remotely control

5   multiple process sections by navigating the linked categories.

1   Claim 41 (currently amended): The industrial control system as recited in claim 25, wherein the

2   mobile wireless device has a storing means to store information [[from]] about a plurality of the

3   process sections.

1   Claim 42 (currently amended): The industrial control system as recited in claim 25, wherein the

2   mobile wireless device is a computing device that analyses the obtained status information.

1   Claim 43 (currently amended): The industrial control system as recited in claim 25 wherein the

2   mobile wireless device communicates with a selected one of the wireless access points which is

3   located in a vicinity of the mobile wireless device.

1   Claim 44 (currently amended): A method for an operator to remotely query and remotely control

2   process sections over a data network in an industrial plant using a mobile wireless device, the

3   process sections being controlled by a centralised computer over a data network control system,

4   the data network including a plurality of wireless access points, the mobile wireless device

5   exchanging information with the centralised computer, the information including data related to

6   process sections and query and control instructions, the method comprising the steps of:

7   establishing a communication link between the mobile wireless device and the centralised

8   ~~computer~~ <u>control system</u> using one of the wireless access points;

9   <u>sending status information from the centralised control system to the mobile wireless</u>

10   <u>device for access by the operator, responsive to query requests received from the mobile wireless</u>

11   <u>device, over the established communication link, the status information pertaining to at least one</u>

12   <u>of the process sections; and</u>

13   <u>sending control instructions provided by the operator using the mobile wireless device to</u>

14   <u>the centralised control system over the established communication link, the control instructions</u>

15   <u>requesting the centralised control system to control at least one of the process sections.</u>

16   ~~processing of information to be sent to the mobile wireless device by the centralised~~

17   ~~computer; and~~

18   ~~exchanging information between the operator and the centralised computer using the~~

19   ~~established communication link.~~

1   Claim 45 (currently amended): The method ~~for an operator to remotely query and control~~

2   ~~process sections in an industrial plant using a mobile wireless device~~ as recited in claim 44,

3   wherein the establishing step further comprising the steps of:

4   approaching a <u>selected one of the</u> wireless access [[point]] <u>points</u> with the mobile

5   wireless device;

6   transmitting a request signal from the mobile wireless device to the centralised ~~computer~~

7   <u>control system</u> in response to approaching the <u>selected</u> wireless access point; <u>and</u>

8   acknowledging, by <u>the</u> centralised ~~computer~~ <u>control system</u>, the transmitted request

9   signal; and <u>further comprising the step of:</u>

10   identifying the location of the mobile wireless device using a known location of the

11   approached wireless access point.

1   Claim 46 (currently amended): The method ~~for an operator to remotely query and control~~

2   ~~process sections in an industrial plant using a mobile wireless device~~ as recited in claim 44,

3   wherein the establishing step further comprises the steps of:

4   detecting the mobile wireless device carried by the operator by searching amongst <u>login</u>

5   <u>information that indicates which operator is logged in to each of</u> a plurality of mobile wireless

6   devices; and

7   identifying a location of the operator using a known location of a selected one of the

8   wireless access points which is wirelessly connected to the mobile wireless device of the

9   operator.

1   Claim 47 (currently amended): The method ~~for an operator to remotely query and control~~

2   ~~process sections in an industrial plant using a mobile wireless device~~ as recited in claim 44,

3   wherein the step of <u>sending status</u> ~~processing the~~ information further comprises the steps <u>of</u>:

4   identifying the operator;

5   identifying a location of the mobile wireless device;

6   identifying a selected one of the process sections near the mobile wireless device;

7   customizing the <u>status</u> information [[from]] <u>pertaining to</u> the identified process section

8   based on [[an]] <u>the</u> identification of the operator; and

9   <u>sending</u> ~~presenting~~ the customized <u>status</u> information to <u>the mobile wireless device for</u>

10   <u>access by</u> the operator.

1   Claim 48 (currently amended): The method ~~for an operator to remotely query and control~~

2   ~~process sections in an industrial plant using a mobile wireless device~~ as recited in claim 44<u>,</u>

3   wherein the step of establishing a communication link between the <u>mobile</u> wireless device and

4   the centralised ~~computer~~ <u>control system</u> uses a Radio Frequency link.

1   Claim 49 (currently amended): The method ~~for an operator to remotely query and control~~

2   ~~process sections in an industrial plant using a mobile wireless device~~ as recited in claim 44<u>,</u>

3   wherein the step of establishing a communication link between the <u>mobile</u> wireless device and

4   centralised ~~computer~~ <u>control system</u> uses a Bluetooth access point.

1   Claim 50 (currently amended): A computer program product for enabling ~~exchange of~~

2   ~~information between~~ a mobile wireless device <u>to remotely query and remotely control process</u>

3   <u>sections in an industrial plant through communications with</u> [[and]] a centralised ~~computer~~

4   <u>control system</u>, the centralised ~~computer~~ <u>control system</u> querying and controlling ~~a plurality of~~

5   <u>the</u> process sections ~~in an industrial plant, the centralised computer processing the information,~~

6   ~~the information including data related to process sections and query and control instructions,~~ the

7   computer program product embodied on one or more computer readable media and comprising:

8   computer readable program code means for establishing a communication link between

9   the mobile wireless device and the centralised ~~computer~~ <u>control system</u> using a wireless access

10   point located in a vicinity of <u>a selected one of</u> the process ~~section~~ <u>sections which the mobile</u>

11   wireless device is near;

12   computer readable program code means for sending status information from the

13   centralised control system to the mobile wireless device for access by the operator, responsive to

14   query requests received from the mobile wireless device, over the established communication

15   link, the status information pertaining to the selected process section; and

16   computer readable program code means for sending control instructions provided by the

17   operator using the mobile wireless device to the centralised control system over the established

18   communication link, the control instructions requesting the centralised control system to control

19   the selected process section.

20   ~~computer readable program code means for processing of the information to be sent to the~~

21   ~~mobile wireless device; and~~

22   ~~computer readable program code means for enabling the exchange of information~~

23   ~~between the operator and the centralised computer.~~

1   Claim 51 (original): The computer program product as recited in claim 50, wherein the computer

2   readable program code means for establishing a communication link further comprises:

3   computer readable program code means for enabling an operator to log-in to the central

4   control system via the mobile wireless device to enable identification of the operator.

1   Claim 52 (original): The computer program product as recited in claim 50, wherein the computer

2   readable program code means for establishing a communication link further comprises:

3   computer readable program code means for identifying a location of the operator.

1   Claim 53 (currently amended): The computer program product as recited in claim 50, wherein

2   the computer readable program code means for establishing a communication link further

3   comprises:

4   computer readable program code means for searching for the operator amongst operator

5   login information stored for a plurality of mobile wireless devices, wherein the operator login

6   information identifies a particular mobile wireless device to which the operator logged in; and

7   computer readable program code means for identifying a location of the operator using a

8   known location of the wireless access point wirelessly connected to the particular mobile

9   wireless device. searched operator.

1   Claim 54 (currently amended): The computer program product as recited in claim 50, wherein

2   the computer readable program code means for establishing a communication link further

3   comprises:

4   computer readable program code means for identifying the operator;

5   computer readable program code means for identifying a location of the mobile wireless

6   device; and

7   computer readable program code means for identifying [[a]] the selected one of the

8   process sections which the mobile wireless device is near and which is located in [[a]] the

9   vicinity of the mobile wireless device access point; and wherein the computer readable program

10   code means for sending the status information further comprises:

11   computer readable program code means for customising the status information [[from]]

12   pertaining to the identified process section based on the identification of the operator; and

13   wherein the computer readable program code means for sending the status information

14   sends the customised status information.

1   Claim 55 (currently amended): A computer program product for representing process sections in

2   an industrial plant as software objects, the computer program product embodied on one or more

3   computer readable media and comprising:

4   computer readable program code means for enabling representation of process sections as

5   software objects;

6   computer readable program code means for enabling representation of characteristics of

7   the process sections as attributes of the software objects; and

8   computer readable program code means for enabling representation of an industrial plant

9   as a hierarchy of software objects, such that an operator of a mobile wireless device can remotely

10   access status information of the process sections by sending status information requests from the

11   mobile wireless device to a centralised control system that communicates with and controls the

12   process sections, thereby causing the centralised control system to consult corresponding ones of

13   the software objects in the hierarchy to retrieve the requested status information, and can

14   remotely control the process sections by sending control instructions from the mobile wireless

15   device to the centralised control system, thereby causing the centralised control system to control

16   corresponding ones of the process sections, such that the status information of corresponding

17   ones of the software objects in the hierarchy is updated.

Claims 56 - 57 (canceled)